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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/338,045	06/22/1999	MARTIN JOHN TROTTER	UK998092	9881

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EXAMINER

PARDO, THUY N

ART UNIT

PAPER NUMBER

2171

DATE MAILED: 11/27/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/338,045

Applicant(s)  
Trotter

Examiner  
Thuy Pardo

Art Unit  
2171



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Aug 16, 1999
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 03 20) ☐ Other: \_\_\_\_\_

1. Claims 1-20 are presented for examination.

*Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371 of this title before the invention thereof by the applicant for patent.

3. Claims 1-20 are rejected under 35 U.S.C. § 102(e) as being anticipated by **Houldsworth** patent no. 6,314,436.

4. As to claim 11, Houldsworth teaches the invention substantially as claimed, comprising:  
storing an object data structure in the stack comprising a reference to the object and a reference to a previously stored object data structure in the stack [see the abstract].

5. As to claim 1, Houldsworth teaches the invention substantially as claimed, comprising:  
retrieving an object data structure from the stack [col. 5, lines 46-48; 601, 608 of fig. 6];  
extracting an object reference from one part of the data structure [605, 612 of fig. 6; 801 of fig. 8]; and

extracting a reference to the next data structure in the stack from another part of the data structure [805 of fig. 8; col. 6, lines 49-54].

6. Claim 20 is a corresponding apparatus claim of claim 1; therefore, it is rejected under the same rationale.

7. As to claim 2, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches retrieving the next data structure and retrieving the corresponding object reference and corresponding next data structure reference [col. 5, lines 12-60, particular lines 45-55].

8. As to claim 3, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches retrieving all linked data structures in the stack [col. 5, lines 61 to col. 6, lines 12].

9. As to claim 4, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches retrieving a last data structure having no next data structure reference [col. 6, lines 24-26; 611, 613 of fig. 6].

10. As to claim 5, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches retrieving the first object data structure in the stack referenced by a first object data structure pointer [col. 2, lines 23-26].

11. As to claim 6, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches using the retrieved object references to define a root set of objects [col. 2, lines 19-26].

12. As to claim 7, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches defining a reachable set of objects as all objects referenced directly or indirectly by the root set objects [see fig. 2-4].

13. As to claim 9, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches identifying all objects within the process and reclaiming the memory space of all non-reachable objects [37 of fig. 2; col. 4, lines 50-54].

14. As to claim 10, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches comprising moving reachable objects so that they are contiguous in memory [col. 5, lines 11-31; ab] and updating all object references in the stack by tracing through the chain of object data structures [col. 6, lines 20-43].

15. As to claim 12, Houldsworth teaches the invention substantially as claimed. Houldsworth further teaches linking the object data structure to the previously stored object data structure [col. 7, lines 9-24].

16. The elements of claims 13-18 are rejected in the analysis above, and these claims are rejected on that basis.

17. Further references of interest are cited on Form PTO-892 which is an attachment to this office action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy Pardo, whose telephone number is (703) 305-1091. The examiner can normally be reached Monday through Thursday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black, can be reached at (703) 305-9707.

The fax phone number for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238 (After Final Communication)

(703) 746-7239 (Official Communication)

(703) 746-7240 (For Status inquiries, draft communication)

and/or:

(703) 746-5616 (*Use this Fax#, only after approval by Examiner, for "INFORMAL" or "Draft" communication. Examiner may request that a formal/amendment be faxed directly to then on occasions*).

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Any inquiry of a general nature of relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

19. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 308-9051, (for formal communications intended for entry)

**Or:**

(703) 308-5359, (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).



Thuy Pardo  
November 15, 2000



THOMAS BLACK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100